Item 3600-001-0001 Department of Fish and Game

2. Interim Reporting on Select Key Activities.

On or before January 10, 2007, Department shall provide a report to the Legislature (including budget and fiscal committees from both houses) on the budgeted activities for 2006-07 and 2007-08 the following program areas: (1) Department's enforcement program, (2) Marine Division, (3) land management and operations, (4) California Environmental Quality Act (CEQA) and Section 1600 program activities, and (5) conservation planning activities. For each of these activities, the department shall include a description of the program, an estimate of the budgeted resources dedicated to the program in 2006-07 and 2007-08, and a discussion of the key, measurable objectives of the programs for 2006-07 and 2007-08.

DEPARTMENT RESPONSE:

FY 2006-07 -- Marine Region Program

PROGRAM DESCRIPTION

The Marine Region is responsible for protecting and managing California's marine resources under the authority of laws and regulations created by the State Legislature, the Fish and Game Commission (Commission), and the Pacific Fishery Management Council (PFMC). It was established in November 1997, as an outgrowth of planning actions taken by the Department of Fish and Game (Department) in the mid-1990s to increase its effectiveness. In addition to a new consolidation of programs, we have adopted a management approach that takes a broader perspective relative to resource issues and problems. This ecosystem approach considers the values of entire biological communities and habitats, as well as the needs of the public, while ensuring a healthy marine environment. It involves field staff with various areas of expertise and considers the marine environment on a statewide basis. This approach is different from traditional State marine resources management, which has focused on individual species or fisheries and has been limited in involvement of all entities with an interest and a stake in the future of California's marine resources.

Much of the Marine Region's focus for the foreseeable future will be on implementing the provisions of the Marine Life Protection Act (MLPA) and Marine Life Management Act (MLMA). In addition, we will devote resources to discharging our responsibility as the trustee of the State's marine fish and wildlife resources while working in the habitat conservation arena. One of the critical needs for accomplishing all of these goals is having adequate, scientifically sound data.

Good fisheries management has always relied on data about the health of targeted stocks. However, additional information is needed regarding marine ecology, essential habitats, and natural processes that affect fish populations, as well as the interactions between different species complexes and the fisheries that pursue them. Without complete *fisheries dependent* data, uncertainties in the amount of fish caught annually can lead to premature fishery closure, or worse, unexpected and potentially significant declines in fish stocks. Without *fisheries independent* data on both the status of populations and the habitats they depend upon, uncertainties in stock status and environmental impacts may lead to errors in management decisions. In addition, it is critical that management decisions are monitored for effectiveness. Therefore, it will be a priority of the Marine Region that essential data are collected, analyzed, and applied to the decision making process for FY 2006-07 as well as FY 2007-08. This priority is clearly reflected in our current organizational structure, program and project descriptions and work plans which were used to generate our list of key, measurable (planned) objectives for FY 2006-07 and FY 2007-08.

The following background information regarding the MLPA and MLMA is provided to better frame how the Marine Region will be allocating its budgeted resources for FY 2006-07 and FY 2007-08.

Marine Life Protection Act

The MLPA mandates "that there is a need to reexamine and redesign California's Marine Protected Areas (MPA) system to increase its coherence and its effectiveness at protecting the state's marine life, habitat, and ecosystems" (Fish and Game Code §2853). The MLPA requires that the Department prepare and the Commission adopt a Master Plan to guide the implementation of a Marine Life Protection Program. The Department, as a preliminary step, prepared a Master Plan Framework, including most parts of the Master Plan but not specific recommendations on the location, type, and number of MPAs. In August 2005, the Commission adopted the Master Plan Framework prepared by the Department. The Master Plan Framework sets forth the tasks and processes required to fully implement the MLPA.

On August 15, 2006, the Commission selected a preferred alternative network of marine protected areas along the central coast of California. The next steps for implementing the MLPA are to: 1) finalize the designation process in the central coast region; 2) monitor, enforce, and manage the central coast MPA network; and 3) continue the MLPA implementation process in the other regions of California.

The adopted MLPA Master Plan recommends dividing the state into five regions to facilitate implementation. As discussed above, the Commission selected a preferred

alternative for MPAs within the central coast on August 15, 2006. As of this writing, the Commission is considering which area of the state will be identified as the next study region.

The MLPA implementation planning process for each region of the state will require both Department staff and contracted support for various technical and scientific roles. The Department has assigned 11 positions to directly assist in this regional planning process. All of the funds included in the proposed budget for our MPAs Project will help inform the Commission's decision as well as the planning process itself.

Immediately after the August 15, 2006 Commission decision to select a preferred alternative for an MPA network along the central coast, the Department began preparing the documents required to adopt regulations necessary to implement that decision. The Department also initiated an environmental review pursuant to the California Environmental Quality Act (CEQA). The Department anticipates that both of these processes will be completed by spring 2007. As of this writing, the Department expects to release the draft regulations, Initial Statement of Reasons for Regulatory Action, and the draft CEQA environmental impact report (EIR) in mid-October and early-November 2006. The Commission expects to take testimony on these documents in winter 2006 and to certify the CEQA document and adopt regulations in the winter/spring of 2007.

Once the establishment of the central coast MPA network is finalized, it will be necessary to monitor MPA effectiveness and enforce the new MPA restrictions. The PFMC and the Department believe that it is critical to obtain information on ecology, habitat, and other natural processes, and on socioeconomic indicators as part of MLPA implementation. This information is necessary to determine over time, if the selected MPA networks are fulfilling the goals envisioned in the MLPA.

The most pressing need is for baseline monitoring of MPAs along California's central coast. This baseline monitoring will provide a snapshot of conditions prior to the establishment of the MPAs. As monitoring continues, changes within the MPAs may be compared to this baseline information. The budget identifies $2.275 million for this baseline monitoring, an estimate based on the work of an MLPA baseline science monitoring panel established specifically for this purpose. The goal is to conduct this baseline monitoring concurrent with the expected implementation of the central coast MPA network.

After the baseline monitoring is completed, ongoing monitoring will also need to be conducted. Ongoing monitoring will not only help determine how well the selected MPA network is fulfilling the MLPA goals, it will inform the ongoing adaptive management process.

Department Marine Region staff performs a variety of duties and are not specifically assigned to MLPA monitoring or other broad management frameworks like the MLMA. Rather, Marine Region staff is assigned to a variety of projects within a few broad

programs. Overall, the Department has assigned 79 positions to ongoing monitoring of marine resources. Of these 79 positions, 32 are from the augmentation provided in the FY 2006-07 budget and many of them will be involved in the future monitoring required for the central coast. In 2007, the Council and the Department will work closely with the federal government, academic and research institutions, commercial fishers, recreational anglers, and the non-governmental organizations (NGO) community to design and implement an ongoing monitoring plan for the central coast.

Another key component of this program is enforcement of the related regulations. The Department's Law Enforcement Division staff is charged with enforcing marine resource management laws and regulations over an area encompassing approximately 1,100 miles of coastline. Department staff also provides enforcement of federal laws and regulations within state waters and in federal waters. Enforcement duties include all commercial and sport fishing statutes and regulations, all Fish and Game Code and Title 14, California Code of Regulations restrictions, marine water pollution incidents, homeland security, and general public safety. General fishing regulations and other restrictions apply within MPAs as well as specific MPA restrictions. The Department shares jurisdiction for federal regulations including the Magnuson-Stevens Fishery Conservation and Management Act, the Endangered Species Act, the Marine Mammal Protection Act, and the Lacey Act. (Specific information regarding the Department's enforcement efforts relative to the marine environment can be found in the Enforcement Program section of this Supplemental Report.)

KEY MEASURABLE OBJECTIVES

A great deal of information and resources are needed to support the implementation of the MLPA on a statewide basis. The Marine Region Program has been reorganized and the additional resources we have in FY 2006-07 are allocated in a way that will help the Department implement proposed new MPAs in the central California coast as well as continue MLPA implementation in subsequent regions over the next five years. Our efforts for FY 2006-07 and FY 2007-08 will focus on:

- Baseline Monitoring
    - The MLPA specifically calls for monitoring and research within MPAs.
    - Baseline data are necessary to determine whether MPAs are effective and to help support ongoing adaptive management of MPAs.
    - In order to move forward with an ecosystem approach to management, it is important to understand the effects of MPAs on the biology and ecology of the biota within and adjacent to the MPA boundaries.
    - Reference reserves may over time help to reveal the effects of fishing on the ecosystem, by providing a comparison of un-fished to fished habitats.

- Habitat Mapping
    - Specific information on benthic zone (ocean bottom) habitats is necessary both to plan and design MPA networks and to monitor those networks once implemented. Benthic habitat mapping will provide the detailed data necessary to determine substrate types, depths, and complexity of habitats.
    - An important early step in moving forward with ecosystem management is to identify, classify, and catalog existing habitat. In the absence of this information, it is difficult or impossible to determine how the ecosystem functions as a whole and what the overall impacts of fishing are to the ecosystem.
- Fishery-Independent Surveys
    - Systematic surveys such as the SCUBA, remote operations vehicle (ROV), and fish trapping proposals provide adult and juvenile information on relative abundance, species interactions and associations, habitat preference, distribution, and size composition of numerous stocks. When tracked over time, this kind of information may provide managers with an indication of whether stocks are increasing or decreasing, and whether the management measures that have been employed are achieving their intended conservation objectives. These surveys help provide information on the status of populations and species composition in specific areas needed for MLPA implementation and planning.
    - Another type of proposed fishery-independent survey is for ichthyoplankton, which measures the spawning output from many different species at the same time. This provides information on growth and survival at the youngest life stages, and also provides an indication of the abundance of the female spawning biomass that produced the planktonic offspring. As with the case of adult and juvenile survey data, the ichthyoplankton survey data may be used to help determine MPA effectiveness.
- Fishery-Dependent Data Collection
    - Better access to data from logbooks and data system evaluation will help to provide more accurate, precise, and timely data on fishing activities, which is crucial to effective fishery management. This information is critical to the MLPA implementation process to help determine both impacts to fisheries from MPAs and to determine locations where stocks may have been impacted by fishing and benefit from MPA protection.
    - The proposed allocation of resources to this effort will help eliminate bottlenecks in capturing, editing, and disseminating a large volume of fishery data from existing sources, especially logbooks.

- Support for MLPA Planning
    - Certain types of expertise not found within the Department are necessary to the MLPA implementation and planning process.
    - External, neutral facilitation is necessary for the stakeholder involvement process as described by the MLPA Draft Master Plan and adopted Master Plan Framework. Neutral facilitation enhances both the process and products from stakeholder working groups.
    - Other scientific expertise can be contracted to provide specific time-sensitive products that the Department may not be able to develop on its own.
    - New funds will support some of the preliminary data collection for the MLPA process in the next region, focusing on needed socioeconomic and ecological data.
- Research Vessel Operations
    - Fishery-independent surveys can only be accomplished with vessel operations that are dedicated to scientific research. Therefore, it is crucial that vessels be available to provide suitable platforms to accomplish these activities. We are proposing to fund additional research vessel operations to help insure that the needed maintenance is performed and equipment is procured to allow the survey work to take place. These surveys are a cornerstone of MPA monitoring.
- Programmatic Support and Infrastructure
    - Proposed support and infrastructure expenditures will provide the necessary physical equipment to address the MLPA implementation and planning needs along with the objective of monitoring and evaluating MPAs. In addition, we are proposing to purchase computers and other equipment to enhance the Department's capability to acquire necessary data, maintain databases, and provide input into both stakeholder and Commission processes.

Additional project information for MLPA efforts is incorporated in the attached Marine Region Program Descriptions and Key Measurable (Planned) Objectives).

Marine Life Management Act

The Marine Life Management Act (MLMA), which became law on January 1, 1999, opened a new era in the management and conservation of California's marine living resources. In fashioning the MLMA, which was introduced as AB 1241 by Assemblyman Fred Keeley, the Legislature drew upon years of experience in California and elsewhere in the United States and the world.

The Act includes a number of innovative features:

- The MLMA applies not only to fish and shellfish taken by commercial and recreational fishermen, but to all marine wildlife.
- Rather than assuming that exploitation should continue until damage has become clear, the MLMA shifts the burden of proof toward demonstrating that fisheries and other activities are sustainable.
- Through the MLMA, the Legislature delegates greater management authority to the Commission and the Department.
- Rather than focusing on single fisheries management, the MLMA requires an ecosystem perspective including the whole environment.
- The MLMA strongly emphasizes science-based management developed with the help of all those interested in California's marine resources.

A central tenet of the MLMA is that management decisions are to be based on sound science and other relevant information. In order to accomplish the MLMA guiding principle of employing an ecosystem approach to achieving sustainable fisheries, the MLMA identifies the acquisition of essential fishery information (EFI) as the way that the best available scientific information will be developed and brought into the process of making management decisions. EFI includes the biology of the fish, population status and trends, fishing effort, catch levels, impacts of fishing, ecological relationships, habitat information, and other environmental information. The MLMA calls on the Department to collect EFI for all fisheries that are managed by the state. Consequently, the MLMA promotes general research on marine ecosystems for use in management decisions.

The MLMA also mandates that the state initiate a comprehensive, ecosystem-based approach to fisheries management through the development of fishery management plans (FMPs). The ultimate goal, as mandated by the MLMA, is to create FMPs for all essential stocks. The Act further mandates that in the absence of strong supporting data, a precautionary approach should be used to manage our state marine fisheries. However, the adoption of new FMPs is not a prerequisite for implementing the general approach to science-based management that is required by the MLMA.

The MLMA directs the Department to collect and analyze fishery data for use in implementing management strategies. To accomplish this broad and overarching mandate, very few of the actions included in this work plan are directed toward completing any particular FMP. To avoid duplication of effort and achieve the maximum return on research activities, rarely are data collection projects species specific, especially when they are designed according to the ecosystem-based approach to management that is prescribed by the MLMA. Consequently, this work plan focuses on collecting much needed baseline data for a number of stocks and habitats, which will directly enable the state to move forward with developing the necessary EFI, improving the scientific basis for management decisions. Activities outlined in this work plan will

also make significant progress towards fulfilling the research and data needs of existing and future FMPs.

The fishery management system established by the MLMA is being implemented stepwise for four sets of fisheries. Following is a summary of actions taken by the Department to implement the MLMA for each of these groups.

1. The nearshore finfish fishery and the white seabass fishery were specified in the MLMA as the first to have FMPs developed and adopted for management.

    - The Department prepared a Nearshore FMP which was adopted by the Commission in August, 2002. Since that time, the Commission and Pacific Fishery Management Council (PFMC) have used it to provide a framework for managing California's nearshore fisheries.
    - The pre-existing white seabass FMP was amended to comply with the MLMA, and the Commission adopted the revised FMP in 2001. The Western States (WS) FMP uses a framework plan approach for managing the white seabass fishery. This enables the adjustment of management measures, within the scope and criteria established by the FMP and implementing regulations, without the need for amending the FMP.

2. Fisheries for which the Commission held some management authority before January 1, 1999.

    - The MLMA Master Plan, adopted in 2001, provides a framework for accomplishing this mandate, setting priorities for the next fisheries for which FMPs will be drafted.
    - A Market Squid FMP was adopted in 2004.
    - An Abalone Recovery and Management Plan (ARMP) was adopted in 2005.

3. Emerging and growing fisheries that are not currently subject to specific regulation.

    - The Marine Region has recently reorganized to establish a new project that deals specifically with emerging fisheries managed by the state, such as Tanner crab.

4. Commercial fisheries for which there is no statutory delegation of authority to the Commission and the Department. (In the case of these fisheries, the Department may prepare and the Commission may adopt, an FMP, but that plan cannot be implemented without a further delegation of authority through the legislative process.)

    - These fisheries have not been a priority for Department action.

A great deal of information and resources are needed to support the completion of EFI for science-based management, as well as to address the data gaps highlighted in the already-completed FMPs for nearshore, white seabass, squid, and abalone. The data collection we are proposing will help the Department make significant progress to directly address EFI needs. This will ensure the Department will not have to wait for, or rely upon, other agency or academic scientists to provide the underlying research and analyses. Proposed project activities will enhance EFI in several key areas, which in turn will help to insure that California's fisheries are managed for long-term sustainability.

- Fishery-Independent Surveys
    - We will conduct systematic surveys such as the SCUBA, ROV, and fish trapping to provide adult and juvenile information on relative abundance, species interactions and associations, habitat preference, distribution, and size composition of numerous stocks. When tracked over time, this kind of information may provide managers with an indication of whether stocks are increasing or decreasing, and whether the management measures that have been employed are achieving their intended conservation objectives. These surveys are one source of information on the effects of fishing on habitat, which is an MLMA objective. Fishery-independent time series data for adults and juveniles are also important for standard stock assessment models for individual species.
    - Another type of fishery-independent survey we will begin implementing is for ichthyoplankton, which measures the spawning output from many different species at the same time. This provides information on growth and survival at the youngest life stages, and also provides an indication of the abundance of the female spawning biomass that produced the planktonic offspring. As with the case of adult and juvenile survey data, the ichthyoplankton survey data are often used as inputs for integrated stock assessment models.
- Baseline Monitoring
    - In order to move forward with an ecosystem approach to management, it is important to understand the biological and ecological effects of MPAs on the biota within and adjacent to the MPA boundaries.
    - Reference reserves may, over time, help to reveal the effects of fishing on the ecosystem by providing a comparison of un-fished-to-fished habitats.
    - Baseline data will also provide information on individual species—both exploited and unexploited—so that future activities may be more effectively evaluated, such as the possible development of a new fishery.
    - Baseline data may also help to provide the inputs for future stock assessments of currently un-assessed species.
    - Finally, the MLMA calls for socio-economic considerations in decision-making, and the baseline socio-economic data on MPAs will help address this issue.

Stock Assessments

- Integrated stock assessments for individual species provide valuable information to managers on the current abundance of a stock and the amount of fishing that the stock can safely support. This is an established and accepted way to provide for sustainable fisheries, and the proposed work will significantly add to the number of assessed stocks in California waters. These assessments are based on computer models that simultaneously analyze all available information on a population to provide the best single answer on how the stock abundance has changed through time in response to fishing pressure. This kind of information informs many fishery management decisions at both the state and federal levels.

- Habitat Mapping
  - An important early step in moving forward with ecosystem management is to identify, classify, and catalog existing habitat. In the absence of this information, it is difficult or impossible to determine how the ecosystem functions as a whole and what the overall impacts of fishing are to the ecosystem.

- Fishery-Dependent Data Collection
  - Better access to data from logbooks and data system evaluation will help to provide more accurate, precise, and timely data on fishing activities, which is crucial to effective fishery management. This information allows managers to insure that key regulations, such as overall catch limits, are being observed and enforced. Also, the MLMA calls for monitoring the level of by-catch and it's effect on other fisheries, which can only be accomplished through effective fishery data collection and the availability of data from sources other than landings, such as from logbooks. Finally, important biological information on the size, age, and sex composition of the catch is provided through these proposed activities.
  - Our proposed project activities will help eliminate bottlenecks in capturing, editing, and disseminating a large volume of fishery data from existing sources, especially logbooks.
  - Improved field data collection will provide better geographic and temporal coverage of fishing activities, ultimately providing managers with insights into poorly-sampled secondary and tertiary activities such as night-time fishing and trips that originate from private marinas. These activities currently are significant sources of uncertainty and imprecision in the overall catch estimates.

- Research Vessel Operations
  - Fishery-independent surveys can only be accomplished with vessel operations that are dedicated to scientific research. Therefore, it is crucial that vessels be available to provide suitable platforms to accomplish

these activities. We are proposing to fund additional research vessel operations to help insure that the needed maintenance is performed and equipment is procured to allow the survey work to take place.

- Programmatic Support and Infrastructure
    - Proposed support and infrastructure expenditures will provide the necessary physical equipment to address the MLMA objective of monitoring and evaluating management actions. The proposed purchase of computers and other equipment will enhance the Department's capability to acquire EFI, maintain databases, and conduct sophisticated modeling analyses such as stock assessments.

The following specific activities and expenditures will directly address some of the EFI research and data needs that have been identified in the existing nearshore, white seabass, and market squid FMPs, as well as the Abalone Recovery and Management Plan.

- Nearshore FMP research and data needs will be met by:
    - Nearshore habitat mapping using sonar, ROV video transects, and novel imaging technologies for spatially specific information on habitat
    - Developing geo-referenced databases
    - Conducting ROV, scuba, and experimental fishing studies to acquire spatially specific information on biomass, density, abundance, age structure, recruitment, life history, and ecological information
    - Improving port sampling protocols for more accurate sport and commercial catch information
    - Improving CPFV and commercial logbook systems for more useful information on catch composition and location
    - Conducting socio-economic studies to determine resource demand, costs-of-production, and the contribution of the commercial and recreational fisheries to local economies
- White seabass FMP research and data needs will be met by:
    - Determining accurate estimates of by-catch
    - Moving toward a ecosystem-based management approach
    - Expanding socioeconomic data collection and analyses
- Market squid FMP research and data needs will be met by:
    - Maintaining and improving the market squid logbook program for more timely data reporting
    - Maintaining the port sampling program and improving the estimates of by-catch

    - Using fishery-independent surveys to evaluate stock structure, distribution, and abundance which will provide the basis for future science-based management strategies
    - Utilizing a ROV to characterize market squid spawning habitat, including the depth and temperature where egg cases are deposited as well as to develop an index of egg case abundance
- Abalone Recovery and Management Plan research and data needs will be met by:
    - Collecting management-related EFI through diver surveys
    - Collecting recovery-related data through exploratory and recovery

Additional project information for MLMA efforts is incorporated in the attached Marine Region Program Descriptions and Key Measurable (Planned) Objectives).

Marine Major Programs

As noted above, the MLPA and MLMA are two major initiatives for the Marine Region. To enable the Marine Region to be more effective, inclusive, comprehensive and collaborative in all marine management activities, the Department recently reorganized the Marine Region into five major programs:

1. Fisheries Management-State/Federal Managed Species
2. Fisheries Management-State Managed Species
3. Habitat Conservation
4. Resource Assessment
5. Administration and License Sales

In addition, the Marine Region's organizational structure has been simplified to make it easier for the Legislature, constituents and the general public to understand the activities and budget of the Marine Region, where the resources are allocated, and what the Marine Region is able to accomplish each fiscal year. An organizational chart that displays the allocation of current resources as well as the significant new resources received in this fiscal year's augmentation is attached. (Reference Attachment A)

The Marine Region's five major programs are described in more detail on a project-by-project basis along with a discussion of the budgeted resources as well as the key measurable (planned) objectives for FY 2006-07 and FY 2007-08, for each project. (Reference Attachment B)

BUDGETED RESOURCES

The total augmentation of resources for the Marine Region includes 57.75 positions and $19,580,000. The specific allocation of these resources is included in the attached Marine Region Program Descriptions and Key Measurable (Planned) Objectives. (Reference Attachment B)